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Environmental Research Institute of Michigan
Computer Processing of ERTS-1
MSS Data From the "San Francisco"
Frame (1003-18175)**

F.J. Thomson (UN636)*
M. Gordon*
J. Morgenstern*
F. Sadowski*

IBM 7094 digital computer analysis of ERTS-1 MSS data was initiated to identify important water, soil, and vegetation classes in the Sacramento Valley portion of the "San Francisco" ERTS-1 frame 1003-18175. Figure 1 shows a color infrared composite of the northwest portion of frame 1003-18175, with Lake Berryessa in the left center and Sacramento just off the photo to the lower right center. The study area of approximately 25 n mi east-west and 15 n mi north-south is enclosed in black lines.

This area comprises the major portion of two Bureau of Reclamation water irrigation districts near Woodland, California. Important agricultural crops in the area are rice, safflowers, barley, and various truck crops such as tomatoes and melons.

ERTS-1 MSS data was computer processed to recognize the important crops using spectral signature information collected by the MSS scanner. The color coded recognition map is shown in Figure 2. The color codes for the recognition map are given in Figure 2. Computer estimates of acreages for the major crops are also shown. Preliminary analysis and field visits to the site show that rice, safflowers, and barley stubble (most barley had been harvested at the time of the overflight) can be reliably discriminated. Continuing work will focus on attempting to recognize the various truck crops and other green vegetation categories.

*Environmental Research Institute of Michigan
 (formerly Willow Run Labs, University of Michigan)
 P.O. Box 618 - Ann Arbor, Michigan 48107

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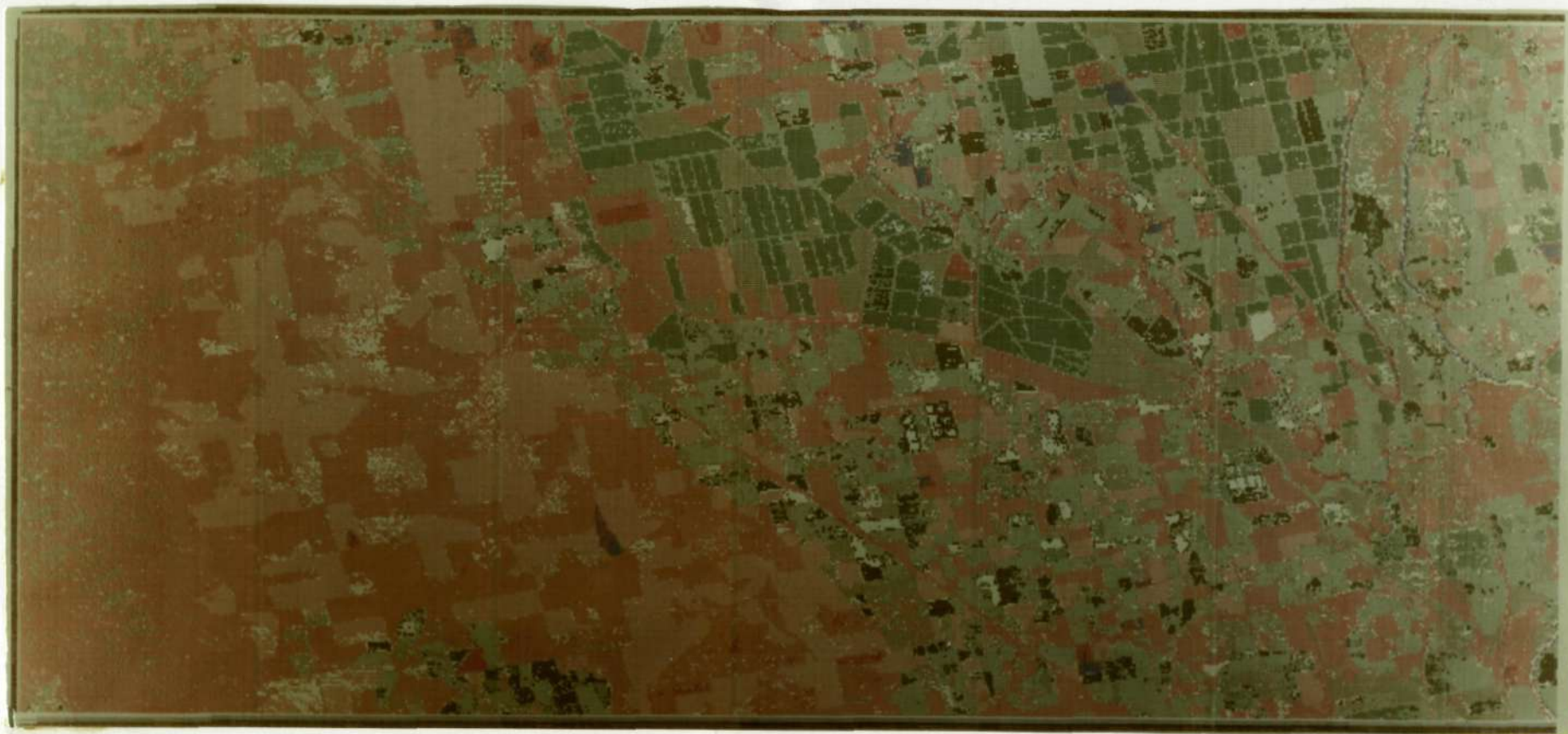
Area Shown In
Figure 2

Figure 1

ENVIRONMENTAL RESEARCH INSTITUTE OF MICHIGAN

DIGITAL RECOGNITION MAP
OF SACRAMENTO VALLEY AGRICULTURE

ERTS FRAME 1003-18175, 25 July 1972

LEGEND

Color	Identification	Acreage	Color	Identification	Acreage
Dark Green	Rice	17105	Blue	Water	1755
Light Green	Other Green Crops	50974	Dark Blue	Wet Bare Soil	4497
Gray	Safflowers	34293	Medium Red	Bare Soil	91280
Black	Truck Crops	8417	Light Red	Barley Stubble	37193
			White	Not Recognized	116

Figure 2